



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0766; Directorate Identifier 2013-NE-26-AD]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Canada Corp. Turboprop Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to revise airworthiness directive (AD) 2014-17-08 that applies to all Pratt & Whitney Canada Corp. (P&WC) PT6A-114 and PT6A-114A turboprop engines. AD 2014-17-08 requires initial and repetitive borescope inspections (BSIs) of compressor turbine (CT) blades, and the removal from service of blades that fail inspection. Since we issued AD 2014-17-08, P&WC developed an additional single crystal CT blade that corrects the unsafe condition. This proposed AD would retain all the requirements of AD 2014-17-08, add an additional single crystal CT blade that corrects the unsafe condition, reduce the affected population, and correct the Credit for Previous Action paragraph. We are proposing this AD to prevent failure of CT blades, which could result in damage to the engine and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Pratt & Whitney Canada Corp., 1000 Marie-Victorin, Longueuil, Quebec, Canada, J4G 1A1; phone: 800-268-8000; fax: 450-647-2888; Internet: www.pwc.ca. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2013-0766; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the mandatory continuing airworthiness information, regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Robert Morlath, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7154; fax: 781-238-7199; email: robert.c.morlath@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this NPRM. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2013-0766; Directorate Identifier 2013-NE-26-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this NPRM.

Discussion

On August 18, 2014, we issued AD 2014-17-08, Amendment 39-17961 (79 FR 52172, September 3, 2014), (“AD 2014-17-08”), for all P&WC PT6A-114 and PT6A-114A turboprop engines. AD 2014-17-08 requires initial and repetitive BSIs of CT blades, and the removal from service of blades that fail inspection. AD 2014-17-08 resulted from several incidents of CT blade failure, causing power loss, and engine failure. We issued AD 2014-17-08 to prevent failure of CT blades, which could result in damage to the engine and damage to the airplane.

Actions Since AD 2014-17-08 Was Issued

Since we issued AD 2014-17-08 (79 FR 52172, September 3, 2014), P&WC developed a new single crystal CT blade, P/N 3079351-01, to correct the unsafe condition. The addition of this new P/N reduces the affected population. Finally, we determined that in AD 2014-07-08, we gave credit for action that is inapplicable to the

unsafe condition. Specifically, in the Credit for Previous Action paragraph, the AD allows credit for a previously performed metallurgical examination of “single crystal CT blades”. Metallurgical examination of single crystal CT blades is inapplicable to the non-single crystal CT blades referenced in Compliance paragraph (e)(1)(iii)(B) of this NPRM.

Relevant Service Information

We reviewed P&WC Service Bulletin (SB) No. PT6A-72-1669, Revision 9, dated June 28, 2013. The service information describes procedures for correcting the unsafe condition.

FAA’s Determination

We are proposing this NPRM because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This NPRM would require initial and repetitive BSIs of CT blades, and the removal from service of blades that fail inspection. This NPRM would also require as a mandatory terminating action, replacement of non-single crystal CT blades with single crystal CT blades at the next shop visit. This NPRM also corrects the reference to single crystal CT blades in the Credit for Previous Action paragraph. This NPRM also reduces the affected population by introducing a new single crystal CT blade P/N that addresses the unsafe condition.

Costs of Compliance

We estimate that this proposed AD affects 300 engines installed on airplanes of U.S. registry. We also estimate that it would take about 4 hours per engine to perform the required inspection and 8 hours to replace the blades. The average labor rate is \$85 per hour. Required parts cost about \$59,334 per engine. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$18,106,200.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Amend § 39.13 by removing airworthiness directive (AD) 2014-17-08, Amendment 39-17961 (79 FR 52172, September 3, 2014), and adding the following new AD:

Pratt & Whitney Canada Corp.: Docket No. FAA-2013-0766; Directorate Identifier 2013-NE-26-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2014-17-08, Amendment 39-17961 (79 FR 52172, September 3, 2014).

(c) Applicability

This AD applies to all Pratt & Whitney Canada Corp. (P&WC) PT6A-114 and PT6A-114A turboprop engines.

(d) Unsafe Condition

This AD was prompted by several incidents of compressor turbine (CT) blade failure, causing power loss, and engine failure. We are issuing this AD to prevent failure of CT blades, which could lead to damage to the engine and damage to the airplane.

(e) Compliance

Comply with this AD within the compliance times specified, unless already done.

(1) For engines installed with CT blades other than P&WC single crystal CT blades, part numbers (P/Ns) 3072791-01, 3072791-02, or 3079351-01, do the following:

(i) Until removed, per the requirements of this AD, borescope inspect the CT blade leading and trailing edges, within the following intervals, whichever occurs later:

(A) 150 operating hours after October 8, 2014; or

(B) 500 operating hours since new; or

(C) 500 operating hours since last borescope inspection (BSI) of the CT blades; or

(D) Before next flight after the effective date of this AD.

(ii) Thereafter, repeat the inspection required by paragraph (e)(1)(i) of this AD every 500 flight hours time since last inspection.

(iii) At the next hot section inspection (HSI) after the effective date of this AD, and each HSI thereafter, replace the complete set of CT blades with any of the following:

(A) New CT blades;

(B) CT blades that have passed a two-blade metallurgical inspection. Use paragraph 3.B., Accomplishment Instructions, of P&WC Service Bulletin (SB) No. PT6A-72-1669, Revision 9, dated June 28, 2013, to do the inspection; or

(C) P&WC single crystal CT blades, P/Ns 3072791-01, 3072791-02, or 3079351-01.

(2) Replacement of the complete set of CT blades with single crystal CT blades, P/Ns 3072791-01, 3072791-02, or 3079351-01 is terminating action for the requirements of paragraph (e)(1) of this AD.

(3) By October 8, 2017, replace the complete set of CT blades with P&WC single crystal CT blades, P/Ns 3072791-01, 3072791-02, or 3079351-01.

(g) Credit for Previous Action

Performance of the metallurgical examination specified in paragraph (e)(1)(iii)(B) of this AD on CT blades other than P&WC single crystal CT blades, P/Ns 3072791-01, 3072791-02, or 3079351-01, before the effective date of this AD fulfils the initial inspection requirements of paragraph (e)(1)(i) of this AD. However, you must still comply with the repetitive BSI requirement of paragraph (e)(1)(ii) of this AD until you complete the mandatory terminating action of paragraph (e)(3) of this AD.

(h) Alternative Methods of Compliance (AMOCs)

(1) AMOCs previously approved for AD 2014-17-08, Amendment 39-17961 (79 FR 52172, September 3, 2014) are approved for this AD.

(2) The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(i) Related Information

(1) For more information about this AD, contact Robert Morlath, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7154; fax: 781-238-7199; email: robert.c.morlath@faa.gov.

(2) Refer to MCAI Transport Canada Civil Aviation AD CF-2013-21R1, dated November 13, 2013, for more information. You may examine the MCAI in the AD

docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2013-0766-0008>.

(3) P&WC SB No. PT6A-72-1669, Revision 9, dated June 28, 2013, which is not incorporated by reference in this AD, can be obtained from P&WC, using the contact information in paragraph (i)(4) of this AD.

(4) For service information identified in this AD, contact Pratt & Whitney Canada Corp., 1000 Marie-Victorin, Longueuil, Quebec, Canada, J4G 1A1; phone: 800-268-8000; fax: 450-647-2888; Internet: www.pwc.ca.

(5) Guidance for performing the BSI of the CT blades leading and trailing edges can be found in paragraph 3.A, Accomplishment Instructions, P&WC SB No. PT6A-72-1669, Revision 9, dated June 28, 2013.

(6) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on November 20, 2014.

Colleen M. D'Alessandro,
Assistant Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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